Remarks:

Reconsideration of the application is requested.

Claims 4-7 remain in the application. Claim 4 has been amended.

In paragraph 4 on page 2 of the Office action, claims 4-7 have been rejected as being obvious over Arbach et al. (5,021,129) in view of Angelopoulos et al. (6,136,513) and Bickford et al. (5,800,858) under 35 U.S.C. § 103.

Claim 4 has been amended to better define the invention. Support for the change can be found by referring to the application at page 6, lines 20-21 and lines 4-10, at page 7, lines 11-13, and at page 11, lines 12-13.

Claim 4 now includes a step of then applying and patterning a second insulating layer made of a photosensitive material.

Aspach et al. does not pertain to a photolithographic method, and if one were to refer to this document, one would not obtain any information with respect to applying and patterning a second insulation layer made of a photosensitive material. Aspach et al. is completely silent with regard to photolithographic process steps.

Angelopoulus et al. describes a method for metalizing, wherein a first dielectric layer (first insulation layer) (14) is applied on a substrate (12). This first dielectric layer is activated and a polymeric auxiliary layer (16) is subsequently applied thereon. A seed layer (18) is applied on this polymeric auxiliary layer. This seed layer is subsequently structured, i.e., a photoresist is applied, the photoresist is exposed and removed in those areas where the lines are embodied. Subsequently, the photoresist must be removed (stripped). Finally, the lines are then embodies by means of metalizing.

Contrary thereto, according to the invention, first a first insulation layer is applied on a substrate, and subsequently the first insulation layer is activated. A second insulation layer is applied on the first insulation layer that has been activated by an activator. This second insulation layer is made of a photosensitive material. This second photosensitive insulation layer is subsequently structured, whereby areas of the first insulation layer are being freed. The freed areas of the first insulation layer are subsequently seeded and metalized.

Using a second insulation layer of a photosensitive material that is structured after its application on the first insulation layer is neither disclosed nor suggested in

Angelopoulus et al. According to Angelopoulus et al., a photoresist is used for the structuring (see col. 6, lines 19 to 25).

Using a photosensitive second insulation layer, however, has advantages as compared to the method described by Angelopoulus et al..

According to the invention, a photoresist layer is not applied for the metalization of an insulator, which must afterwards be removed again. The second insulation layer (photosensitive) remains intact in the areas in which no metalization is embodied. One process step, the stripping, is thus not necessary, which makes it possible to reduce the costs of the method.

Such a process is also not even hinted at in Angelopoulus et al. According to Angelopoulus et al., the entire insulation layer is seeded and a photoresist layer is necessary, which must be removed subsequent to performing the method. This has the disadvantages that are described in the introductory material in the present application, namely that a particle formation is caused due to the resist stripping, which leads to a yield reduction. This particle formation is caused by the portions of the stripped photoresist that remain on the substrate.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 4. Claim 4 is, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claim 4, they are believed to be patentable as well.

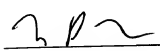
In view of the foregoing, reconsideration and allowance of claims 4-7 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, he is respectfully requested to telephone counsel so that, if possible, patentable language can be worked out.

Please charge any fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and

Greenberg, P.A., No. 12-1099.

Respectfully submitted,



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GR 00 P 1583

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Klaus Lowack et al.

Applic. No. : 09/817,963

Filed : March 27, 2001

Title : Method For The Metalization Of An Insulator And/Or A Dielectric

Examiner : Brian K. Talbot

Group Art Unit : 1762

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claim 4 (amended). A process for metallizing at least one insulating layer of an electronic or microelectronic component, which comprises:

applying at least one first insulating layer to a substrate such that the first insulating layer has a thickness not greater than 50µm;

activating the first insulating layer by treatment with an activator;

then applying and patterning a second insulating layer made of a photosensitive material; and

then seeding and metallizing the first insulating layer.